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014517921 **Image available**

WPI Acc No: 2002-338624/200237

XRPX Acc No: N02-266229

Liquid crystal display device in electronic device e.g. television, has multiple pixels having storage circuits

Patent Assignee: SEMICONDUCTOR ENERGY SOURCE INST CO LTD (SEME);
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Inventor: KOYAMA J

Number of Countries: 005 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20020024485	A1	20020228	US 2001916306	A	20010730	200237	B
CN 1337669	A	20020227	CN 2001124995	A	20010808	200237	
JP 2002149138	A	20020524	JP 2001235487	A	20010802	200250	
KR 2002013727	A	20020221	KR 200147409	A	20010807	200257	
TW 518533	A	20030121	TW 2001119163	A	20010806	200356	

Priority Applications (No Type Date): JP 2000240332 A 20000808

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20020024485	A1		38	G09G-003/36	
CN 1337669	A			G09G-003/36	
JP 2002149138	A		35	G09G-003/36	
KR 2002013727	A			G09G-003/36	
TW 518533	A			G09G-003/20	

Abstract (Basic): US 20020024485 A1

NOVELTY - Each of the pixels respectively have storage circuit

(A1-A3 and B1-B3) such as SRAM, DRAM, FeRAM, etc.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included

for

liquid crystal display device driving method.

USE - For electronic devices such as CD and DVD players,

television, personal computer, video camera, head mount display, portable information terminal such as electronic book, mobile computer, cell phone, etc.

ADVANTAGE - Electric power consumption during display of still picture is greatly reduced by providing pixels with storage circuits.

DESCRIPTION OF DRAWING(S) - The figure shows the circuit diagram of pixel with multiple storage circuits.

Storage circuits (A1-A3,B1-B3)

pp; 38 DwgNo 1/20

Title Terms: LIQUID; CRYSTAL; DISPLAY; DEVICE; ELECTRONIC; DEVICE; TELEVISION; MULTIPLE; PIXEL; STORAGE; CIRCUIT

Derwent Class: P85; T01; T04; U14; W01; W03; W04

International Patent Class (Main): G09G-003/20; G09G-003/36

International Patent Class (Additional): G02F-001/133; G02F-001/136; G09F-009/30; G09F-009/35

File Segment: EPI; EngPI

?

[19] 中华人民共和国国家知识产权局

[51] Int. Cl.⁷

G09G 3/36

G02F 1/136

[12] 发明专利申请公开说明书

[21] 申请号 01124995.1

[43] 公开日 2002 年 2 月 27 日

[11] 公开号 CN 1337669A

[22] 申请日 2001.8.8 [21] 申请号 01124995.1

[30] 优先权

[32] 2000.8.8 [33] JP [31] 240332/00

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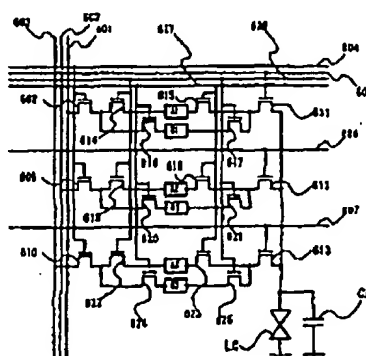
代理人 吴增勇 张志醒

权利要求书 8 页 说明书 34 页 附图页数 20 页

[54] 发明名称 液晶显示装置及其驱动方法

[57] 摘要

本发明的目的之一是提供带有具有新电路结构的驱动电路和像素、能够有低功耗的液晶显示装置。在使用 n 位数字图像信号(n 为整数)显示图像的液晶显示装置中,通过在每个像素中装入 $n \times m$ 个存储电路(m 为整数),它包括在像素中存储 m 帧数字图像信号的功能(在实例的所示附图中, $n=3, m=2, 3$ 位 $\times 2$ 帧被存储在存储电路 A1 至 A3 和 B1 至 B3 内)。因此,在显示静止图像时,通过重复读取暂时存储在存储电路中的数字图像信号并且在每帧中显示,可以停止源信号线驱动电路在这段时间内的驱动,以减小液晶显示装置的功耗。



ISSN 1008-4274

CPHEL0152669

Patent Office of the People's Republic of China

Address : Receiving Section of the Chinese Patent Office, No. 6 Tucheng Road West, Haidian District, Beijing. Postal code: 100088

Applicant	SEMICONDUCTOR ENERGY LABORATORY COMPANY LIMITED			Seal of Examiner	Date of Issue
Agent	China Patent Agent (H.K.) Ltd.				March 18, 2005
Patent Application No.	01126012.2	Application Date	August 20, 2001	Exam Dept.	
Title of Invention	LIQUID CRYSTAL DISPLAY DEVICE, METHOD OF DRIVING THE SAME, AND METHOD OF DRIVING A PORTABLE INFORMATION DEVICE HAVING THE LIQUID CRYSTAL DISPLAY DEVICE				

First Office Action

1. ☒ Pursuant to the provision of Article 35 (1) of the Chinese Patent Law, the examiner made an examination as to substance of the captioned patent application for invention upon the request for substantive examination filed by the applicant.
- ☐ Pursuant to the provision of Article 35 (2) of the Chinese Patent Law, the Chinese Patent Office has decided to conduct on its own initiative an examination as to substance of the captioned patent application for invention.
2. ☒ The applicant requests taking the filing date, August 18, 2000, at the JP Patent Office, the filing date, August 23, 2000, at the JP Patent Office, the filing date, _____, at the _____ Patent Office as the priority date of the present application.
- ☒ A copy of the first filed patent application certified by the receiving organ of the initial country of filing has been submitted by the applicant.
- ☐ A copy of the first filed patent application certified by the receiving organ of the initial country of filing has not been submitted by the applicant. Pursuant to the provision of Article 30 of the Chinese Patent Law, no priority right shall be deemed to have been claimed.
3. ☐ The applicant filed amended application document(s) on _____ and _____.
- ☐ Examination has confirmed that _____ filed on _____ cannot be accepted, _____ filed on _____ cannot be accepted,
- as the above amendment(s) ☐ is/are not in conformity with the provision of Article 33 of the Chinese Patent Law.
- ☐ is/are not in conformity with the provision of Rule 51 of the Implementing Regulations of the Chinese Patent Law.
- ☐ For the specific reason that the amendment(s) cannot be accepted, see the text of the Office Action.

4. ☐ The examination is conducted in the light of the original application document(s)
☒ The examination is conducted in the light of the following application document(s):
in the original application documents submitted on the filing date: Claim(s) _____,
page(s) 1-42 of the description, Figure(s) PP.1-38 of the drawing(s); Claim(s) 1-29,
page(s) _____ of the description, Figure(s) _____ submitted on May 22, 2003;
Claim(s) _____, page (s) _____ of the description, Figure(s)
submitted on _____
☒ Abstract of the description and the abstract drawings submitted on August 20, 2001.
5. ☐ The present Office Action has been prepared without a search having been conducted.
☒ The present Office Action has been prepared with a search having been conducted.
☒ The following reference document(s) is/are cited in this Office Action (its/their serial number(s) will, continue to be used throughout the examination procedure):

No.	Number or Title of Document	Date of Publication (or filing date of interfering application)
1	CN1337669A	(Date) February 27, 2002
2		(Date)
3		(Date)
4		
5		
6		

6. The concluding comments of the examiner are:

- ☐ On the description:
- ☐ The content of the application comes within the scope where no patent right is granted as provided in Article 5 of the Patent Law.
 - ☐ The description is not in conformity with the provision of Article 26(3) of the Patent Law.
 - ☐ The drafting of the description is not in conformity with the provision of Rule 18 of the Implementing Regulations.
- ☒ On the claims:
- ☐ Claim comes within the scope where no patent right is granted as provided in Article 25 of the Patent Law.
 - ☐ Claim is not in conformity with the definition of invention in Rule 2(1) of the Implementing Regulations.
 - ☐ Claim _____ does not possess novelty as provided in Article 22(2) of the Patent Law.
 - ☐ Claim _____ does not possess inventiveness as provided in Article 22(3) of the Patent Law.
 - ☐ Claim _____ does not possess practical applicability as provided in Article 22(4) of the Patent Law.

- ☐ Claim _____ is not in conformity with the provision of Article 26(4) of the Patent Law.
- ☐ Claim _____ is not in conformity with the provision of Article 31(1) of the Patent Law.
- ☒ Claim 4, 6, 7, 24, 26 is not in conformity with the provisions of Rules 20-23 of the Implementing Regulations.
- ☐ Claim _____ is not in conformity with the provision of Article 9 of the Patent Law.
- ☒ Claim 1-5, 14-16 is not in conformity of the provision of Rule 13(1) of the Implementing Regulations.

For specific analyses of the above concluding comments, see the text of this Office Action.

7. In view of the above concluding comments, the examiner holds that:

- ☐ The applicant should amend the application document in accordance with the requirements raised in the text of this Office Action. The amended document(s) should be submitted in duplicate and should conform to the provisions of Article 33 of the Patent Law and Rule 51 of the Implementing Regulations of the Chinese Patent Law.
- ☒ The applicant should expound in his Observations the reasons why the captioned patent application is patentable and amend the places not conforming to regulations as pointed out in the text of the Office Action, otherwise it would be impossible for the patent right to be granted.
- ☐ The captioned patent application contains no substantive content for which the patent right may be granted, thus if the applicant has not advanced his reasons or has not done so adequately, the application will be rejected.

8. The applicant should pay attention to the following matters:

- (1) In accordance with the provision of Article 37 of the Patent Law, the applicant should submit his/its Observations within **four** months from the date of receipt of this Office Action; if, without any justified reason, the time limit for making response is not met, the application will be deemed to have been withdrawn.
- (2) The amendments made by the applicant to his application should conform to the provision of Article 33 of the Patent Law, the amended text should be in duplicate and the format should conform to the relevant provisions of the Guidelines for Examination.
- (3) The applicant's Observations or amended text should be mailed or presented to the Receiving Section of the Chinese Patent Office. Document not mailed or presented to the Acceptance Section have no legal force.
- (4) Without making an appointment, the applicant and/or agent may not come to the Chinese Patent Office to hold an interview with the examiner.

9. This Office Action consists of the text portion totalling 2 page(s) and of the following annex(es):

- ☒ 1 duplicate copies of the reference document(s) cited totalling 63 page(s).
- ☐
- ☐

CPEL0152669

First Office Action

This application relates to a liquid crystal display device comprising pixels, a method of driving a liquid crystal display device and a method of driving a portable information device. Through examination, now the following examination opinions are provided:

1. Claim 1 claims a liquid crystal display device comprising pixels, claim 1 of ref. 1 (the application document submitted by the same applicant) claims a liquid crystal display device having a plurality of pixels, wherein the plurality of pixels respectively have a plurality of storage circuits, it belongs to technology certainly used in this field that each of the pixels of the liquid crystal display device has a D/A converter to fulfill D/A conversion before display, therefore, actually the technical solution of claim 1 of this application and the technical solution of claim 1 of ref. 1 belong to the same invention, claim 1 is not in conformity with the provision of Rule 13, para. 1 of the Implementing Regulations of the Patent Law.

2. Claims 2, 3 are not in conformity with the provision of Rule 13, para. 1 of the Implementing Regulations of the Patent Law, actually their additional technical features belong to technology certainly used in this

field, actually the technical solution of claim 1 of ref. 1 includes the contents, therefore, actually the technical solutions of claims 2, 3 of this application and the technical solution of claim 1 of ref. 1 belong to the same invention, said claims are not in conformity with the provision of Rule 13, para. 1 of the Implementing Regulations of the Patent Law.

3. For the same reasons, actually the technical solutions of claims 4, 5 of this application and the technical solution of claim 11 of ref. 1 belong to the same invention, said claims are not in conformity with the provision of Rule 13, para. 1 of the Implementing Regulations of the Patent Law.

4. For the same reasons, actually the technical solutions of claims 14, 15, 16 of this application and the technical solutions of claims 2-4, 5-8, 10 of ref. 1 respectively belong to the same invention, said claims are not in conformity with the provision of Rule 13, para. 1 of the Implementing Regulations of the Patent Law.

5. Claim 4 doesn't state the meaning represented by "m", therefore the protection scope is not clearly defined, which is not in conformity with the provision of Rule 20, para. 1 of the Implementing Regulations of the Patent Law.

6. Claim 6 and claim 1 referred to do not include any statement or definition on the “source signal line”, claim 7 and claim 1 referred to do not include any statement or definition on the “gate signal line”, therefore claims 6, 7 do not clearly define the protection scope, which is not in conformity with the provision of Rule 20, para. 1 of the Implementing Regulations of the Patent Law.

7. Claim 24 doesn't define or state the related conditions of “source signal line” and “source signal line driving circuit”, said claim is not clear, therefore said claim does not clearly define the protection scope, which is not in conformity with the provision of Rule 20, para. 1 of the Implementing Regulations of the Patent Law.

8. (This item relates to expression in the Chinese version, which will be dealt with by us---the agent's note.)

To sum up, the applicant should give answers one by one directed at the defects put forward in this Office Action within the time limit for response specified in this Office Action and amend the patent application documents when necessary to accelerate the examination process. The applicant is requested to note that the amendment to the application documents shall conform with the provision of Art. 33 of the Patent Law

and shall not go beyond the scope of the disclosure contained in the initial description and claims, otherwise this application will be rejected under the provision of Rule 53 of the Implementing Regulations of the Patent Law. Please note that when submitting an amended text, the applicant should submit: first, the copy of the initial text of the parts covered in the amendment, on which additions, deletions or replacements are marked; second, the reprinted replacement sheets for replacing the corresponding initial text. The applicant should ensure the consistency of the above two parts in the content.